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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/072,809B

DATE: 01/27/2003

TIME: 11:01:40

#13

Input Set : A:\EP.txt

Output Set: N:\CRF4\01272003\J072809B.raw

3 <110> APPLICANT: Anderson, Marilyn, A., Lay, Fung T., Heath, Robyn, L.  
 5 <120> TITLE OF INVENTION: Plant-derived molecules and genetic sequences encoding same  
 and uses  
 6 therefor  
 8 <130> FILE REFERENCE: 18-01  
 C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/072,809B  
 11 <141> CURRENT FILING DATE: 2002-02-08  
 13 <150> PRIOR APPLICATION NUMBER: USSN 60/267,271  
 14 <151> PRIOR FILING DATE: 2001-02-08  
 16 <160> NUMBER OF SEQ ID NOS: 62  
 18 <170> SOFTWARE: PatentIn version 3.0  
 20 <210> SEQ ID NO: 1  
 21 <211> LENGTH: 28  
 22 <212> TYPE: DNA  
 23 <213> ORGANISM: Artificial Sequence  
 25 <220> FEATURE:  
 26 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer  
 28 <400> SEQUENCE: 1  
 29 ggaattccat atggctcgct ccttgtagc  
 31 <210> SEQ ID NO: 2  
 32 <211> LENGTH: 29  
 33 <212> TYPE: DNA  
 34 <213> ORGANISM: Artificial Sequence  
 36 <220> FEATURE:  
 37 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer  
 29 <400> SEQUENCE: 2  
 40 gcggatcctc agttatccat tatctcttc  
 42 <210> SEQ ID NO: 3  
 43 <211> LENGTH: 24  
 44 <212> TYPE: DNA  
 45 <213> ORGANISM: Artificial Sequence  
 47 <220> FEATURE:  
 48 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer  
 24 <400> SEQUENCE: 3  
 51 ccggatccag agaatgcaaa acag  
 53 <210> SEQ ID NO: 4  
 54 <211> LENGTH: 26  
 55 <212> TYPE: DNA  
 56 <213> ORGANISM: Artificial Sequence  
 58 <220> FEATURE:  
 59 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer  
 26 <400> SEQUENCE: 4  
 62 gggagctctt agttatccat tatctc  
 64 <210> SEQ ID NO: 5

p.6

ENTERED

## RAW SEQUENCE LISTING

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Input Set : A:\EP.txt

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65 <211> LENGTH: 31
66 <212> TYPE: DNA
67 <213> ORGANISM: Artificial Sequence
69 <220> FEATURE:
70 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
72 <400> SEQUENCE: 5
73 ggaattctaa acaatggctc gctccttggtg c 31
75 <210> SEQ ID NO: 6
76 <211> LENGTH: 29
77 <212> TYPE: DNA
78 <213> ORGANISM: Artificial Sequence
80 <220> FEATURE:
81 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
83 <400> SEQUENCE: 6
84 gctctagatc agttatccat tatctcttc 29
86 <210> SEQ ID NO: 7
87 <211> LENGTH: 141
88 <212> TYPE: DNA
89 <213> ORGANISM: Nicotiana alata
91 <220> FEATURE:
92 <221> NAME/KEY: CDS
93 <222> LOCATION: (1)..(141)
95 <400> SEQUENCE: 7
96 aga gaa tgc aaa aca gaa agc aac aca ttt cct gga ata tgc att acc 48
97 Arg Glu Cys Lys Thr Glu Ser Asn Thr Phe Pro Gly Ile Cys Ile Thr
98 1 5 10 15
100 aaa cca cca tgc aga aaa gct tgt atc agt gag aaa ttt act gat ggt 96
101 Lys Pro Pro Cys Arg Lys Ala Cys Ile Ser Glu Lys Phe Thr Asp Gly
102 20 25 30
104 cat tgt agc aaa atc ctc aga agg tgc cta tgt act aag cca tgt 141
105 His Cys Ser Lys Ile Leu Arg Arg Cys Leu Cys Thr Lys Pro Cys
106 35 40 45
108 <210> SEQ ID NO: 8
109 <211> LENGTH: 47
110 <212> TYPE: PRT
111 <213> ORGANISM: Nicotiana alata
113 <400> SEQUENCE: 8
114 Arg Glu Cys Lys Thr Glu Ser Asn Thr Phe Pro Gly Ile Cys Ile Thr
115 1 5 10 15
117 Lys Pro Pro Cys Arg Lys Ala Cys Ile Ser Glu Lys Phe Thr Asp Gly
118 20 25 30
120 His Cys Ser Lys Ile Leu Arg Arg Cys Leu Cys Thr Lys Pro Cys
121 35 40 45
123 <210> SEQ ID NO: 9
124 <211> LENGTH: 75
125 <212> TYPE: DNA
126 <213> ORGANISM: Nicotiana alata
128 <220> FEATURE:
129 <221> NAME/KEY: CDS

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## RAW SEQUENCE LISTING

DATE: 01/27/2003

PATENT APPLICATION: US/10/072,809B

TIME: 11:01:40

Input Set : A:\EP.txt

Output Set: N:\CRF4\01272003\J072809B.raw

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130 <222> LOCATION: (1)..(75)
132 <400> SEQUENCE: 9
133 atg gct cgc tcc ttg tgc ttc atg gca ttt gct atc ttg gca agg atg      48
134 Met Ala Arg Ser Leu Cys Phe Met Ala Phe Ala Ile Leu Ala Arg Met
135 1          5          10          15
137 ctc ttt gtt gcc tat gag gtg caa gct      75
138 Leu Phe Val Ala Tyr Glu Val Gln Ala
139          20          25
141 <210> SEQ ID NO: 10
142 <211> LENGTH: 25
143 <212> TYPE: PRT
144 <213> ORGANISM: Nicotiana alata
146 <400> SEQUENCE: 10
147 Met Ala Arg Ser Leu Cys Phe Met Ala Phe Ala Ile Leu Ala Arg Met
148 1          5          10          15
150 Leu Phe Val Ala Tyr Glu Val Gln Ala
151          20          25
153 <210> SEQ ID NO: 11
154 <211> LENGTH: 99
155 <212> TYPE: DNA
156 <213> ORGANISM: Nicotiana alata
158 <220> FEATURE:
159 <221> NAME/KEY: CDS
160 <222> LOCATION: (1)..(99)
162 <400> SEQUENCE: 11
163 gtg ttt gat gag aag atg act aaa aca gga gct gaa att ttg gct gag      48
164 Val Phe Asp Glu Lys Met Thr Lys Thr Gly Ala Glu Ile Leu Ala Glu
165 1          5          10          15
167 gaa gca aaa act ttg gct gca gct ttg ctt gaa gaa gag ata atg gat      96
168 Glu Ala Lys Thr Leu Ala Ala Ala Leu Leu Glu Glu Glu Ile Met Asp
169          20          25          30
171 aac      99
172 Asn
174 <210> SEQ ID NO: 12
175 <211> LENGTH: 33
176 <212> TYPE: PRT
177 <213> ORGANISM: Nicotiana alata
179 <400> SEQUENCE: 12
180 Val Phe Asp Glu Lys Met Thr Lys Thr Gly Ala Glu Ile Leu Ala Glu
181 1          5          10          15
183 Glu Ala Lys Thr Leu Ala Ala Ala Leu Leu Glu Glu Glu Ile Met Asp
184          20          25          30
186 Asn
188 <210> SEQ ID NO: 13
189 <211> LENGTH: 216
190 <212> TYPE: DNA
191 <213> ORGANISM: Nicotiana alata
193 <220> FEATURE:
194 <221> NAME/KEY: CDS

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## RAW SEQUENCE LISTING

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TIME: 11:01:40

Input Set : A:\EP.txt

Output Set: N:\CRF4\01272003\J072809B.raw

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195 <222> LOCATION: (1)..(216)
197 <400> SEQUENCE: 13
198 atg gct cgc tcc ttg tgc ttc atg gca ttt gct atc ttg gca agg atg      48
199 Met Ala Arg Ser Leu Cys Phe Met Ala Phe Ala Ile Leu Ala Arg Met
200 1      5      10      15
202 ctc ttt gtt gcc tat gag gtg caa gct aga gaa tgc aaa aca gaa agc      96
203 Leu Phe Val Ala Tyr Glu Val Gln Ala Arg Glu Cys Lys Thr Glu Ser
204      20      25      30
206 aac aca ttt cct gga ata tgc att acc aaa cca cca tgc aga aaa gct      144
207 Asn Thr Phe Pro Gly Ile Cys Ile Thr Lys Pro Pro Cys Arg Lys Ala
208      35      40      45
210 tgt atc agt gag aaa ttt act gat ggt cat tgt agc aaa atc ctc aga      192
211 Cys Ile Ser Glu Lys Phe Thr Asp Gly His Cys Ser Lys Ile Leu Arg
212      50      55      60
214 agg tgc cta tgt act aag cca tgt      216
215 Arg Cys Leu Cys Thr Lys Pro Cys
216 65      70
218 <210> SEQ ID NO: 14
219 <211> LENGTH: 72
220 <212> TYPE: PRT
221 <213> ORGANISM: Nicotiana alata
223 <400> SEQUENCE: 14
224 Met Ala Arg Ser Leu Cys Phe Met Ala Phe Ala Ile Leu Ala Arg Met
225 1      5      10      15
227 Leu Phe Val Ala Tyr Glu Val Gln Ala Arg Glu Cys Lys Thr Glu Ser
228      20      25      30
230 Asn Thr Phe Pro Gly Ile Cys Ile Thr Lys Pro Pro Cys Arg Lys Ala
231      35      40      45
233 Cys Ile Ser Glu Lys Phe Thr Asp Gly His Cys Ser Lys Ile Leu Arg
234      50      55      60
236 Arg Cys Leu Cys Thr Lys Pro Cys
237 65      70
239 <210> SEQ ID NO: 15
240 <211> LENGTH: 240
241 <212> TYPE: DNA
242 <213> ORGANISM: Nicotiana alata
244 <220> FEATURE:
245 <221> NAME/KEY: CDS
246 <222> LOCATION: (1)..(240)
248 <400> SEQUENCE: 15
249 aga gaa tgc aaa aca gaa agc aac aca ttt cct gga ata tgc att acc      48
250 Arg Glu Cys Lys Thr Glu Ser Asn Thr Phe Pro Gly Ile Cys Ile Thr
251 1      5      10      15
253 aaa cca cca tgc aga aaa gct tgt atc agt gag aaa ttt act gat ggt      96
254 Lys Pro Pro Cys Arg Lys Ala Cys Ile Ser Glu Lys Phe Thr Asp Gly
255      20      25      30
257 cat tgt agc aaa atc ctc aga agg tgc cta tgt act aag cca tgt gtg      144
258 His Cys Ser Lys Ile Leu Arg Arg Cys Leu Cys Thr Lys Pro Cys Val
259      35      40      45

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## RAW SEQUENCE LISTING

DATE: 01/27/2003

PATENT APPLICATION: US/10/072,809B

TIME: 11:01:40

Input Set : A:\EP.txt

Output Set: N:\CRF4\01272003\J072809B.raw

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261 ttt gat gag aag atg act aaa aca gga gct gaa att ttg gct gag gaa      192
262 Phe Asp Glu Lys Met Thr Lys Thr Gly Ala Glu Ile Leu Ala Glu Glu
263      50                      55                      60
265 gca aaa act ttg gct gca gct ttg ctt gaa gaa gag ata atg gat aac      240
266 Ala Lys Thr Leu Ala Ala Ala Leu Leu Glu Glu Glu Ile Met Asp Asn
267 65                      70                      75                      80
269 <210> SEQ ID NO: 16
270 <211> LENGTH: 80
271 <212> TYPE: PRT
272 <213> ORGANISM: Nicotiana alata
274 <400> SEQUENCE: 16
275 Arg Glu Cys Lys Thr Glu Ser Asn Thr Phe Pro Gly Ile Cys Ile Thr
276 1                      5                      10                      15
278 Lys Pro Pro Cys Arg Lys Ala Cys Ile Ser Glu Lys Phe Thr Asp Gly
279      20                      25                      30
281 His Cys Ser Lys Ile Leu Arg Arg Cys Leu Cys Thr Lys Pro Cys Val
282      35                      40                      45
284 Phe Asp Glu Lys Met Thr Lys Thr Gly Ala Glu Ile Leu Ala Glu Glu
285      50                      55                      60
287 Ala Lys Thr Leu Ala Ala Ala Leu Leu Glu Glu Glu Ile Met Asp Asn
288 65                      70                      75                      80
290 <210> SEQ ID NO: 17
291 <211> LENGTH: 541
292 <212> TYPE: DNA
293 <213> ORGANISM: Nicotiana alata
295 <220> FEATURE:
296 <221> NAME/KEY: CDS
297 <222> LOCATION: (1)..(318)
299 <400> SEQUENCE: 17
300 atg gct cgc tcc ttg tgc ttc atg gca ttt gct atc ttg gca agg atg      48
301 Met Ala Arg Ser Leu Cys Phe Met Ala Phe Ala Ile Leu Ala Arg Met
302 1                      5                      10                      15
304 ctc ttt gtt gcc tat gag gtg caa gct aga gaa tgc aaa aca gaa agc      96
305 Leu Phe Val Ala Tyr Glu Val Gln Ala Arg Glu Cys Lys Thr Glu Ser
306      20                      25                      30
308 aac aca ttt cct gga ata tgc att acc aaa cca cca tgc aga aaa gct      144
309 Asn Thr Phe Pro Gly Ile Cys Ile Thr Lys Pro Pro Cys Arg Lys Ala
310      35                      40                      45
312 tgt atc agt gag aaa ttt act gat ggt cat tgt agc aaa atc ctc aga      192
313 Cys Ile Ser Glu Lys Phe Thr Asp Gly His Cys Ser Lys Ile Leu Arg
314      50                      55                      60
316 agg tgc cta tgt act aag cca tgt gtg ttt gat gag aag atg act aaa      240
317 Arg Cys Leu Cys Thr Lys Pro Cys Val Phe Asp Glu Lys Met Thr Lys
318 65                      70                      75                      80
320 aca gga gct gaa att ttg gct gag gaa gca aaa act ttg gct gca gct      288
321 Thr Gly Ala Glu Ile Leu Ala Glu Glu Ala Lys Thr Leu Ala Ala Ala
322      85                      90                      95
324 ttg ctt gaa gaa gag ata atg gat aac taa ttagagatta gaagaaatta      338
325 Leu Leu Glu Glu Glu Ile Met Asp Asn

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RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/072,809B

DATE: 01/27/2003  
TIME: 11:01:41

Input Set : A:\EP.txt  
Output Set: N:\CRF4\01272003\J072809B.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:58; Xaa Pos. 1,2,4,5,6,8,9,11,13,15,16,17,18,19,21,22,23,25,26,28,30  
Seq#:58; Xaa Pos. 31,33,35,36,37,38,39,40,42,45,46  
Seq#:59; Xaa Pos. 2,3,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23  
Seq#:59; Xaa Pos. 24,25,26,27,28,29,30,32  
Seq#:60; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22  
Seq#:60; Xaa Pos. 23,24,25,26,27,28,29,30,31,32,33  
Seq#:61; Xaa Pos. 2,3,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23  
Seq#:61; Xaa Pos. 24,25,26,27,28,29,30,32,33,34,36,37,38,40,41,43,45,47,48  
Seq#:61; Xaa Pos. 49,50,51,53,54,55,57,58,60,62,63,65,67,68,69,70,71,72,74  
Seq#:61; Xaa Pos. 77,78,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96  
Seq#:61; Xaa Pos. 97,98,99,100,101,102,103,104,105,106,107,108,109,110,111  
Seq#:61; Xaa Pos. 112  
Seq#:62; Xaa Pos. 1,2,4,5,6,7,8,9,10,11,12,13,15,16,17,18,19,21,22,23,25,26  
Seq#:62; Xaa Pos. 27,28,29,30,31,32,33,35,36,37,38,39,40,42,44,45,46